

Unit I, Part I Review

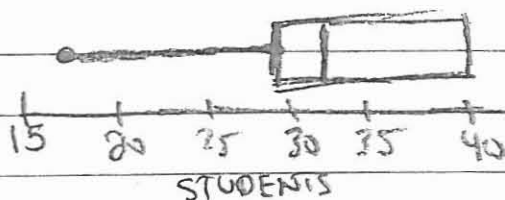
① a) mean = 40 IQR = 8 min = 22
median = 42 SD = 6 $Q_1 = 37$

b) mean = 60 IQR = 16 min = 74
median = 64 SD = 12 $Q_1 = 54$

c) mean = 80 IQR = 16 min = 44
median = 84 SD = 12 $Q_1 = 74$

② a) All the values from Q_3 to max are 40. Therefore, at least 25% of the classes have 40 students.

b) Use boxplots - can't use Normal model, the data does not meet Nearly Normal Condition



Probably low - it is in the lower quartile, thus it is in the smallest 25% of class. We can't get any more specific than that.

c) median = $12 + .75(33) = \$36.75$

IQR = $.75(11) = \$8.25$

3) Mooseburgers

$$\bar{x} = 134.4$$

$$s_x = 14.86$$

$$\min = 110$$

$$Q_1 = 123$$

$$\text{med} = 133.5$$

$$Q_3 = 144$$

$$\max = 160$$

not so

$$IQR = 21$$

McTofu

$$\bar{x} = 142.36$$

$$s_x = 73.35$$

$$\min = 100$$

$$Q_1 = 110$$

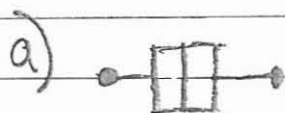
$$\text{med} = 120$$

$$Q_3 = 132$$

$$\max = 360$$

not so

$$IQR = 22$$



McTofu



Mooseburgers



b) Both distributions are approximately symmetric, with the distribution of the weekly pay at McTofu of \$360 per week. That pay is an outlier and is much higher than any other pay at either restaurant. Both restaurants also have similar spreads, as determined by IQRs, Mooseburgers' IQR is \$21 + McTofu's is \$22. They also both have similar ranges, excluding the outlier - the range of Mooseburgers is \$50 + McTofu's \$46. The two restaurants, however, do vary in their centers (medians). The Mooseburgers' average pay is \$133.50 + the average pay of McTofu is only \$120. This difference in average pay of \$13 is pretty large. The average of Mooseburgers is even higher than the upper quartile pay of McTofu, indicating that half the employees at Mooseburgers are paid more than 75% of the employees at McTofu.

...5 Cont.

c) Moseburger mean = \$134.40

McTofu mean = \$142.36

The mean of McTofu is influenced by the outlier value of \$360. That outlier "pulls" the mean towards the higher values. The mean gives the false impression that McTofu has a higher average pay than does Moseburger.

d) I would rather work at Moseburger because each one of the 5-number salary values is higher than at McTofu. This shows that "on average" you will get a higher pay at Moseburger.

1) X NO DATA - Sorry!

2) X NO DATA - Sorry!